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RANE

HA6S

User Guide	English (2-6)
Guía del usuario	Español (7-11)
Guide d'utilisation	Français (12-16)
Guida per l'uso	Italiano (17-21)
Benutzerhandbuch	Deutsch (22-26)
Appendix	English (27)

User Guide (English)

Introduction

Thanks for purchasing the Rane HA6S! HA6S is a universal, multi-purpose mixer and headphone amplifier for rehearsal, studio, or stage. Perfect for headphones, in-ear monitors, or personal monitor mixing, HA6S features six independent high-power stereo amplifiers in one compact rack unit that delivers maximum audio quality, even at very high or very low volume levels; HA6S has a minimized circuitry path which means there's less "stuff" for your signal to pass through, keeping your sound clear and crisp.

- Manufactured under QS9000 certified quality system
- Six independent high-powered headphone amplifiers in a compact, 1RU size
- Supplies six fully independent mixes for up to 18 pairs of headphones
- Stereo Aux Input on each channel with level adjustments
- Additional Direct Input on front panel to mix in additional sources
- Four-segment LED on each channel for easy visual monitoring
- Mono and Left/Right Mutes per channel for two mono mixes per channel
- High-quality components and exceptionally rugged construction
- Servo-balanced, gold-plated XLR and 1/4" TRS connectors

Box Contents

HA6S

Power Cable

User Guide

Safety & Warranty Manual

Support

For the latest information about this product (documentation, technical specifications, system requirements, compatibility information, etc.) and product registration, visit rane.com.

For additional product support, visit rane.com/support.

Sound Level

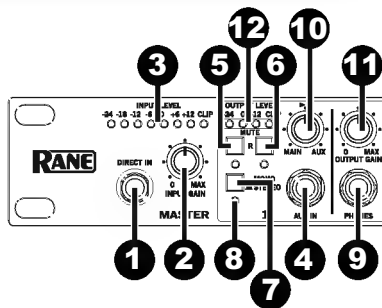
Permanent hearing loss may be caused by exposure to extremely high noise levels. The U.S. Occupational Safety and Health Administration (OSHA) has specified permissible exposures to certain noise levels. According to OSHA, exposure to high sound pressure levels (SPL) in excess of these limits may result in hearing loss. When using equipment capable of generating high SPL, use hearing protection while such equipment is under operation.

Hours per day	SPL (dB)	Example
8	90	Small gig
6	92	Train
4	95	Subway train
3	97	High-level desktop monitors
2	100	Classical music concert
1.5	102	Riveting machine
1	105	Machine factory
0.5	110	Airport
0.25 or less	115	Rock concert

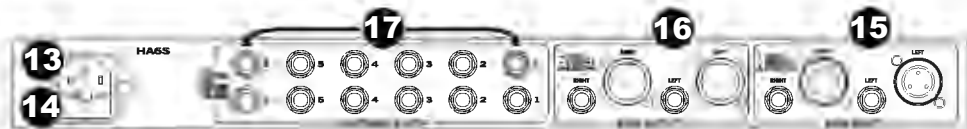
Features

Front Panel

- Direct Input:** Feeds an external audio source directly into the main signal path.
- Input Gain Control:** Controls the signal level going to the **Main Inputs**.
- Input Level Meter:** Displays the signal level coming from **Main Inputs**. For the best quality of input signal, the LED should range from 0 to +6 dBu. If the Clip LED (in the **Output Level Meter**) is always on, reduce the input level using the **Input Gain Control**.
- Aux Input:** Provides a separate stereo input signal which can be mixed with the **Main Input** signal.
- L Mute Switch:** Mutes the left input signal.
- R Mute Switch:** Mutes the right input signal.
- Mode Switch:** Switches the operational mode between mono and stereo.
- Mono LED:** This LED lights up when the unit is in mono mode. When the LED is off, the unit is in stereo mode.
- Headphone Output:** 1/4" TRS phone jack used to output the signal of the individual channel. There are also 12 additional headphone outputs (two for each channel) on the rear panel.
- Balance Control:** Sets the amount of the signal coming from the **Aux Input** and **Main Input**. When a signal is fed into the Aux Input, the balance control will regulate the ratio of the Main Input and the Aux Input signals.
- Output Gain Control:** Adjusts the output level of the individual channel.
- Output Level Meter:** Displays the output signal level. If the Clip LED lights up, turn down the input gain control and/or the individual output gain control to avoid distortion.



Rear Panel



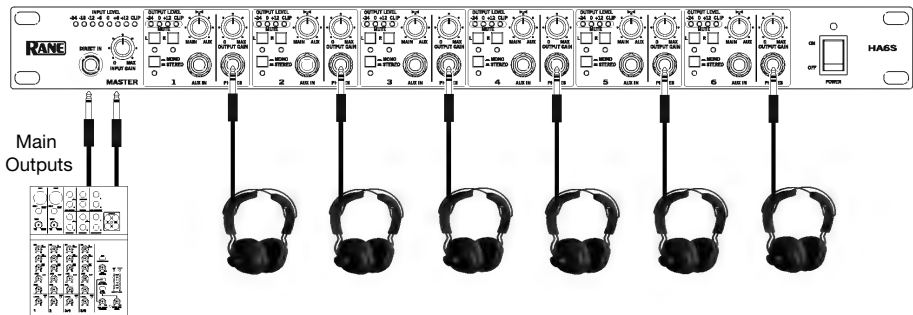
- Power Connector:** Use the included power cable to connect this connector to a power source. Please check the voltage accepted by the unit and the voltage available from your power source before connecting it.
- Fuse Holder:** If the fuse blows, replace it with a fuse of the same type.
- Main Input Connectors:** Balanced 1/4" TRS and XLR connectors used to input the stereo signal.
- Main Output Connectors:** Balanced 1/4" TRS and XLR connectors used to output the main signal. Use these connectors to link several headphone amplifiers together.
- Headphone Out (1-12):** These are 12 additional headphone outputs (two for every channel) wired in parallel with the output available on the front panel.

Setup

- Switch everything on in the following order:
 - audio input sources (i.e. instruments, CD/MP3 players)
 - HA6S
 - speakers/amps
- When turning off, always reverse this operation:
 - speakers/amps
 - HA6S
 - last, any input sources

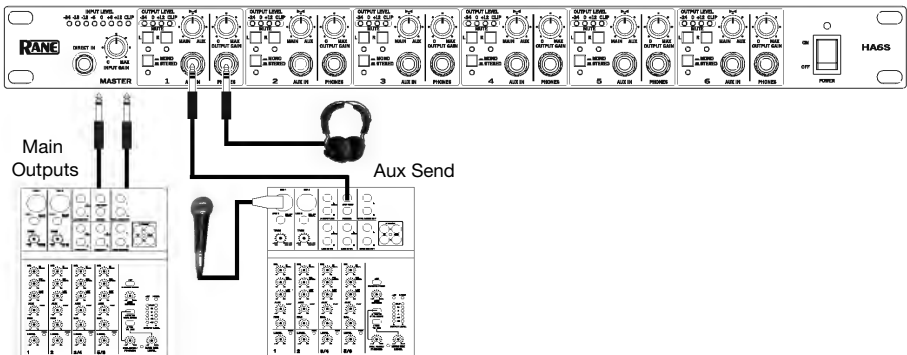
Using the Main Input Connectors

- Connect your source to the rear panel **main input** connectors on HA6S.
- Set the **input gain** (Main section) and the **balance control** (Channel section) on center position. Set the **output gain** of each channel all the way down.
- Check the **input level meter** for optimal signal.
- Connect headphones to HA6S and start to raise the **output gain** of each channel to the desired listening volume.

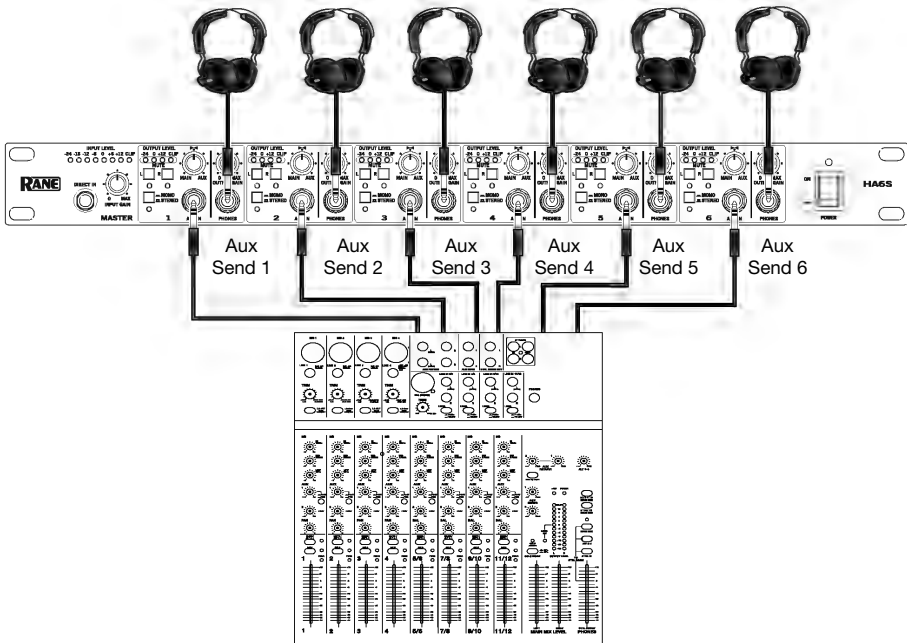


Using the Aux Inputs

You can also play back a signal to feed in a vocal microphone and then connect a mixer's Aux send to HA6S's **Aux input**. Use the **balance control** to give the vocalist the desired mix between the voice and the playback signal. Then, adjust the **output gain** control to regulate the overall desired volume.



Through the **Aux inputs**, you can use the six channels of HA6S independently to give individual mixes to six different musicians. Connect the Aux Sends or Subgroup outputs directly to the **Aux input** of HA6S. Then rotate the **balance control** on your HA6S fully to the left. This will route only the Aux In signal to the headphones.



Using Multiple Headphones on the Same Channel

Each channel provides three headphone outputs. These jacks are all connected in parallel. For best results, please note the impedance information:

- When connecting one headphone to each channel, the minimum impedance of the headphone should be 100 ohms.
- When connecting two headphones to each channel, the minimum impedance of each headphone should be 200 ohms.
- When connecting three headphones to each channel, the minimum impedance of each headphone should be 300 ohms.

Installation and Connection

Read the following section carefully. Not paying attention to the input signal level, to the routing of the signal and to the assignment of the signal will result in unwanted distortion, a corrupted signal or no sound at all.

Power Connection

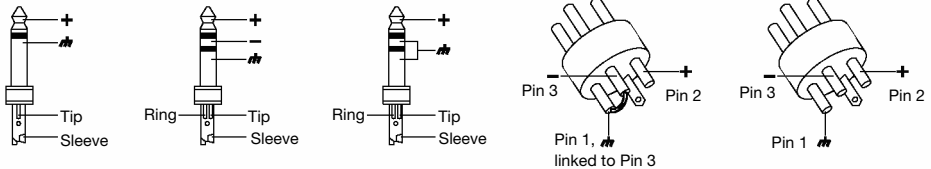
Use the same fuse as marked on the **fuse holder** near the **power connector**. Connect HA6S to a standard power outlet using the enclosed power cable.

Audio Connection

The HA6S uses balanced XLR and 1/4" (6.35 mm) TRS phones jack. It can be connected to other units in a variety of ways to support a vast range of applications without experiencing a signal loss.

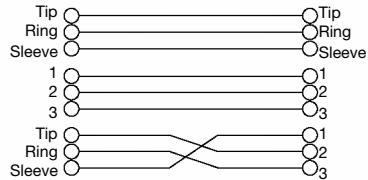
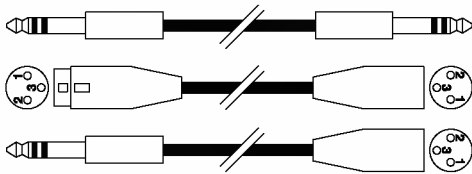
Wiring Configuration

You can wire your XLR or 1/4" (6.35 mm) TRS cables as balanced or unbalanced. Here are some examples:

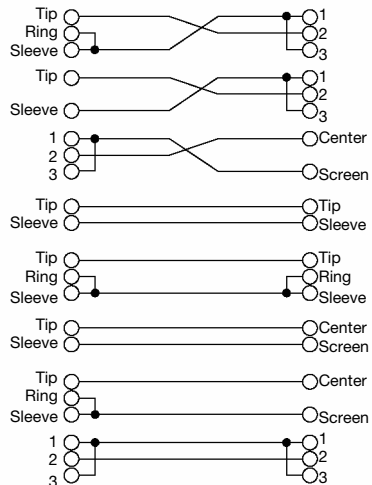
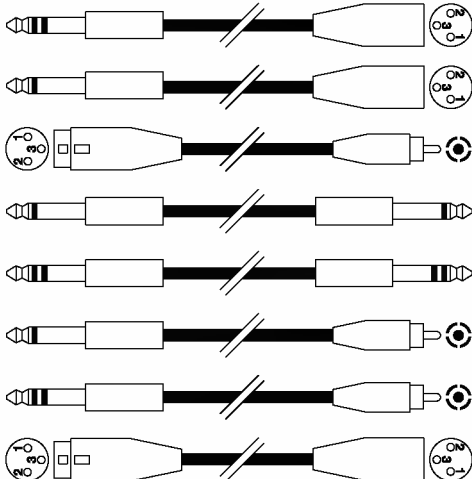


Determine the wiring configuration you need for your application and audio connections:

Balanced



Unbalanced



Appendix (English)

Technical Specifications

Inputs	
Connectors	XLR and 1/4" (6.35 mm)
Type	Electronically servo-balanced, RF-filtered
Impedance	Balanced: > 50 K Ω Unbalanced: > 25 K Ω
Maximum Input Level	+21 dBu typical, balanced or unbalanced
Aux In and Direct In	
Connectors	1/4" (6.35 mm) TRS (tip = left; ring = right; sleeve = ground)
Impedance	Unbalanced: > 25 K Ω
Maximum Input Level	+21 dBu, balanced or unbalanced
Output	
Connectors	XLR and 1/4" (6.35 mm)
Type	Balanced/Unbalanced
Maximum Output Level	+21 dBu, balanced and unbalanced
Power Amplifier	
Maximum Output Power	+21 dBmW
Min. Output Impedance	100 Ω
Maximum Gain	+20 dB
Performance	
Frequency Response	10 Hz – 50 kHz, +0/-3 dB
Signal-to-Noise Ratio	> 90 dB, unweighted Reference: +4 dBu, 22 Hz – 22 kHz
THD	0.005% Reference: +4 dBu
Power	Power Consumption: 14 watts Input Voltage: 120 V AC, 60 Hz; 230-240 V AC, 50 Hz
Dimensions (width x depth x height)	19.0" x 8.54" x 1.7" 483 mm x 217 mm x 44 cm
Weight	6.4 lbs. 2.9 kg

Specifications are subject to change without notice.

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